

Activity 3

Metamorphic Rocks and the Geologic History of Your Community

Think About It

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- What factors cause one rock to change into another kind of rock?
- Where does metamorphism occur?



WHAT DO YOU THINK?

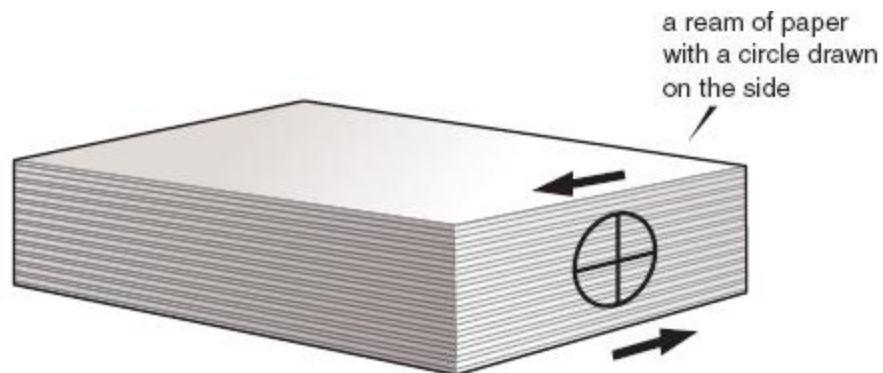
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Investigate Part A

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3a. How does the shape of the circle change when you deform the stack?

3b. How does the line parallel to the sheets change when you deform the stack?

3c. How does the line perpendicular to the sheets change when you deform the stack?

Activity 3 Metamorphic Rocks

Digging Deeper

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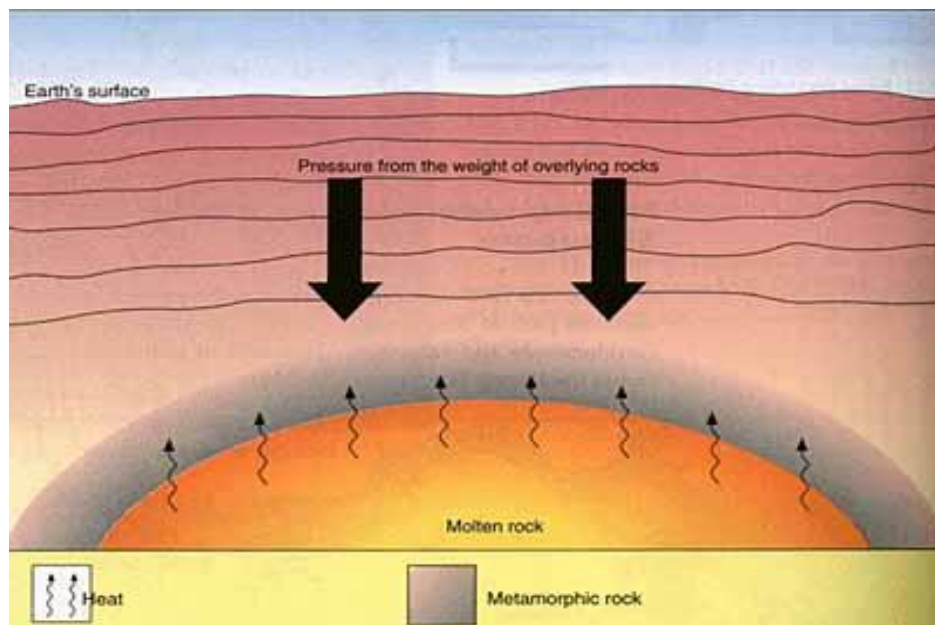
Learning Objective: In writing, SWBAT describe how metamorphic rock forms using academic language in order to understand their role in the rock cycle.

<http://www.brainpop.com/science/earthsystem/typesofrocks/>

Metamorphic rock

rock that has been changed into a different type of rock because of an increase in temperature, pressure or both

This causes the rock to change its shape and/or its composition



http://www.classzone.com/books/earth_science/terc/content/visualizations/es0607/es0607page01.cfm?chapter_no=visualization

Metamorphic rocks

can form from igneous, sedimentary or other metamorphic rocks

They can only form in a specific range of temperature and pressure

When a rock is put under the high heat and pressure of metamorphism, its crystals change into different minerals

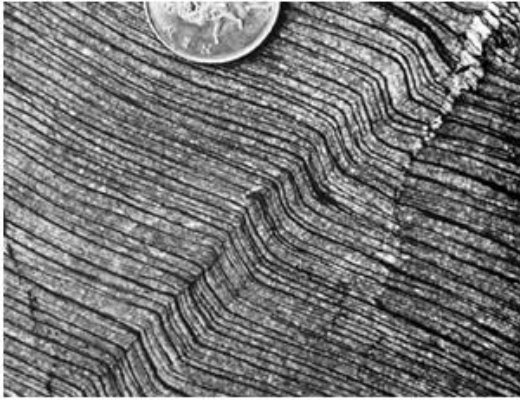
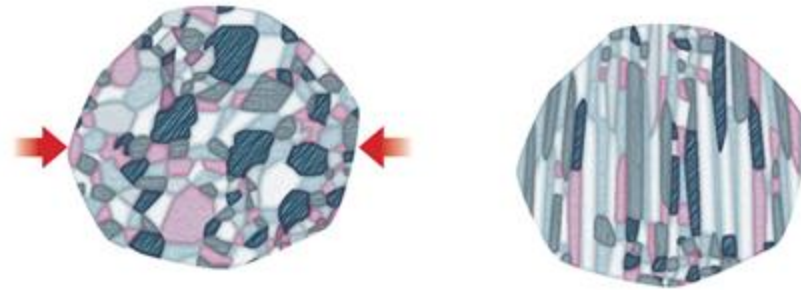
Examples of metamorphic rock

- marble
- slate
- gneiss



Foliated

metamorphic rock with mineral grains lined up in parallel layers



<http://www.wwnorton.com/college/geo/animations/foliation.htm>

Protolith

the rock from which a metamorphic rock was formed

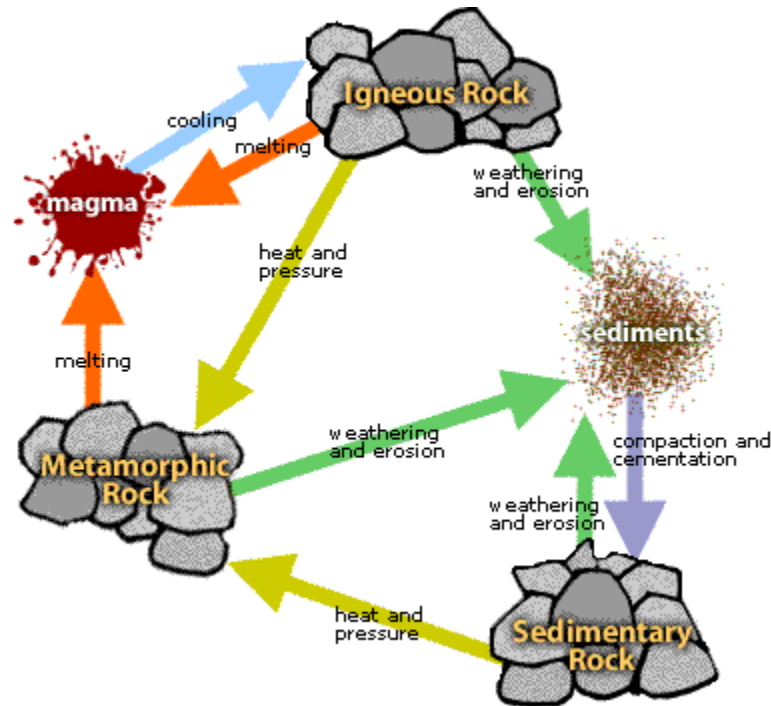
Sedimentary and igneous rocks are common protoliths of metamorphic rocks

Learning Objective:

In writing, SWBAT analyze the rock cycle, using academic language, in order to understand how and where rocks form and change.

Rock cycle

a model that describes how rocks slowly change from one form to another through time



<http://www.brainpop.com/science/earthsystem/rockcycle/>

Activity 3

Check Your Understanding

Date

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1. Describe two sources of heat that lead to metamorphism.

2. Why is the composition of a metamorphic rock usually different from the composition of the protolith (the original rock)?

3. How do geologists classify metamorphic rock?